Markov simulation of US pregnant women and infants under 6 months of age for 1 calendar year, from July 1 through June 30. National statistics on live births and infant mortality were used to generate probabilities of delivery and infant death based on gestational age. Each week, women entered the cohort with new pregnancies, and left by delivery; infants entered by delivery and left by death or reaching 6 months of age. Annual influenza-attributable rates of outpatient visits and hospitalizations for pregnant women and infants were obtained from the literature, and adjusted to weekly incidences using CDC data on influenza-positive respiratory isolates. In the base case, we assumed vaccination would begin in calendar week 40, be administered at routine prenatal visits across all gestational ages, and continue throughout the rest of the year, with vaccine efficacy of 73% for prevention of maternal flu and 63% for prevention of flu in infants under 6 months. Costs and maternal utilities were obtained from previously published analyses; we used published parental utilities for relevant infant health states. **RESULTS:** Base-case cost-effectiveness was $65,112/QALY gained. Fifty-six percent of the reduction in morbidity was attributable to prevention of disease in infants, and all of this benefit was accrued by vaccination within the first 4 weeks of vaccine availability. **CONCLUSIONS:** Vaccination of pregnant women against seasonal influenza is cost-effective, with much of the benefit derived from prevention of infant disease. Vaccination is most efficient when the majority of pregnant women are vaccinated within 4 weeks of vaccine availability.

PIH18

COST-EFFECTIVENESS OF COMBINATION THERAPY WITH DUTASTERIDE AND TAMSULOSIN FOR THE TREATMENT OF MODERATE TO SEVERE BENIGN PROSTATIC HYPERPLASIA IN SPAIN

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OBJECTIVES: To evaluate the cost-effectiveness of the combination therapy with dutasteride and tamsulosin (D+T) as initiation treatment versus tamsulosin (T), considered the standard of care, in the treatment of moderate to severe benign prostatic hyperplasia (BPH) in Spain. **METHODS:** A semi-Markov model was developed using 4-year and 35-year time horizons. Data were obtained from the CombAT and literature review, and the analysis was made from the National Healthcare Service perspective. Effectiveness was measured in terms of reduction of acute urinary retention (AUR) events and/or BPH-related surgeries and quality adjusted life-years (QALYs). Health care resources were defined by an experts' panel, and unitary costs were obtained from published Spanish sources and expressed in 2010 Euros. The model calculates costs, AURs and/or surgeries, and QALYs related to each therapy. Costs and effectiveness outcomes were discounted at 3.0%. One-way and probabilistic sensitivity analyses were conducted to test the robustness of the model. **RESULTS:** Combination therapy with D+T improves patients' outcomes. At 4 years, D+T patients have a 9.9% reduction in AURs and/or surgeries over T, reaching 43.9% at 35 years. At 4 and 35 years, total costs related to T treatment add up to 1,373.90€ and 5,187.37€, and total costs related to D+T are 2,184.43€ and 8,630.99€, respectively. Therefore, at 4 years, treatment with D+T presents an additional cost of 81.66€ per AUR and/or surgery avoided and 14,023.32€ per QALY gained compared to T. At 35 years, results were 79.10€ per AUR and/or surgery avoided and 8,750.15€ per QALY gained. Sensitivity analyses showed that results are robust. **CONCLUSIONS:** Given the assumptions, combination treatment with D+T not only represents a more effective alternative versus T due to the reduction in AURs and/or surgeries, but also is a cost-effective treatment in patients with moderate to severe BPH in Spain.

PIH19

TRENDS IN COST-EFFECTIVENESS STUDIES OF HIGH BUDGET IMPACT DRUGS

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OBJECTIVES: The recently made coverage decisions by UK's NICE, Scotland's SMC and the allocation of $1.1Billion for comparative effectiveness research by the United States, are strong indicators of trends in pricing and reimbursement that are likely to be observed in the future. To gain an additional insight into these trends, we analyzed the cost-effectiveness studies for the top 10 highest selling drugs (~$80–95B worldwide sales). **METHODS:** The Top 10 drugs were selected based on their worldwide sales. For this analysis, we segmented these drugs into categories as primary care, specialty, small molecules, biologics, therapy areas and availability of generic alternatives. We analyzed the cost-effectiveness studies that were published in peer-reviewed journals. Search was conducted using generic names of the drugs and the phrase "cost-effectiveness" in abstract of the published study. **RESULTS:** During 2003–2008, the number of published studies on "cost-effectiveness" have increased by more than 30%. Almost half of the published studies belong to—Remicade, Plavix and Enbrel. There is a large variability in CERs for same drugs for different indications, in some cases also varying by biomarkers. Primary care drugs had lower and less variable CERs than specialty drugs. Variations also exist in methodology used by different groups in modeling cost-effectiveness, especially for time horizon and comparator. Majority of primary care drugs were modeled for a time horizon of 35–40 years or lifetime to demonstrate cost-effectiveness. Among the top 10 drugs, quetiapine and erythropoietin had the highest variability across different studies, and atorvatstatin, salmetrol/fluticasone and clopidogrel had the most consistent ICER values across studies. **CONCLUSIONS:** This analysis shows the range, variability and methods used for calculation of ICER values for these high budget impact drugs and provides lessons for executives and policy makers.

PIH20

EXPLORATORY COST-EFFECTIVENESS ANALYSIS OF THE ANTERIOR REPAIR OF THE PELVIC ORGAN PROLAPSE COMPARING ANTERIOR COLPORRHAPHY (CONVETIONAL SURGERY) VERSUS PROLIFT® MESH, UNDER THE BRAZILIAN PRIVATE PAYER PERSPECTIVE

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OBJECTIVES: To assess the cost-effectiveness of the anterior repair of the Pelvic organ prolapse (POP) with Prolift® versus the colporrhaphy (COLP), under private payer perspective, in Brazil. **METHODS:** A multi-state Markov model was developed to assess the evolution of a patient with anterior vaginal prolapse after COLP and Prolift® after 2, 4, 10 and 20 years. a panel of specialist was conducted to obtain the local practice and to collect the complication rates. Only direct medical costs were considered (SIMPRO, 2010; CBHPM 5th Ed). Clinical data, transition probabilities and mortality rates were taken from published sources (IBGE, 2008; Jia, X 2007). The base-case patient could face up to three surgical repairs if prolapse relapsed. Two scenarios were modeled to compare the clinical and economic impact of Prolift® as second line treatment; mesh grant was the assumed third line treatment for both scenarios. Discount rate of 5% for costs and outcomes was taken following the Brazilian HTA guidelines (Vianna, 2007). One-way sensitivity analysis was conducted to assess the robustness of the results. **RESULTS:** The total costs for the first year were higher for Prolift® (R$8119 versus R$4777; incremental R$3342). For the 2nd year the difference in the total costs reduced (R$8659 vs. R$7435; additional R$1223) with better outcomes for Prolift® (incremental QALYs: 0.04) with ICER ranging from R$19,099 (non discounted) to R$33,207 (discounted). For the next years the ICERs reduced, showing long term benefits of the adoption of Prolift®. For the fourth year ICER ranging from R$419 to R$532, 10th year from R$578 to R$827 and for the 20th year ranging from R$832 to R$1291, for non discounted and discounted results. **CONCLUSIONS:** Findings suggest Prolift® as a cost-effective intervention, under the Brazilian private payer perspective.

PIH21

IS ROUTINE IMMUNIZATION OF ELDERLY WITH THE 13-VALENT PNEUMOCOCCAL CONJUGATE VACCINE LIKELY TO BE CONSIDERED AS COST-EFFECTIVE?

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OBJECTIVES: To estimate the cost-effectiveness in relation to the efficacy of PCV-13 among elderly (both the total population and those at increased risk) aged 65 years and older for the The Netherlands, for various levels of efficacy assumed. **METHODS:** Our previously published cost-effectiveness model was updated to include, age-specific epidemiological data and health care utilization and costs for a hypothetical cohort of elderly aged over 65 years of the population of the The Netherlands. This cohort was followed twice- once as unvaccinated and once as a vaccinated cohort- over a time period of 5 years. Outcome measures included costs, life-years (LYs), quality-adjusted life-years (QALYs) and cost-effectiveness ratios (CERs). All analyses were performed from a societal perspective. **RESULTS:** Vaccination remained well below the €80,000 per LY except if the vaccine was only assumed to be protective against bacteraemic pneumonia with a relatively low effectiveness (40%) in combination with a high vaccine price (€65) and indirect effects of serotype replacement would largely offset the direct effect of vaccination. For various assumptions, introduction PCV-13 (assuming a 60% efficacy against invasive and non invasive disease due to vaccine serotypes, and a cost of €50 per vaccinated person) the incremental cost-effectiveness ratio varies over from cost-saving to €50,676 per LY. More probable scenarios generated cost-effectiveness ratios which would be labeled as cost-effective. **CONCLUSIONS:** In the The Netherlands, vaccination with PCV-13 is likely to be considered cost-effective both for the total and for the high-risk population over 65 years of age from a societal perspective over a five-year time horizon. The main limitation of this study was the uncertainty regarding the share of pneumococcal related pneumonia.

PIH22

EVALUATING THE COST-EFFECTIVENESS OF CERVICAL CANCER SCREENING AND HUMAN PAPILLOMAVIRUS VACCINATION STRATEGIES USING A MATHEMATICAL MODEL

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OBJECTIVES: To assess the cost-effectiveness of various cervical screening strategies in a cohort of 12-year-old US women with (V) and without (NV) a human papillomavirus (HPV) 16/18 vaccine with efficacy against vaccine and non-vaccine oncogenic HPV types. **METHODS:** A lifetime Markov model simulating the progression of HPV infection and subsequent cervical disease (cervical intraepithelial neoplasia (CIN),